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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/090,112

Applicant(s)

BARBANSON ET AL.

Examiner

Timothy R. Newlin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4 rejected under 35 U.S.C. 102(e) as being anticipated by Rodriguez et al., U.S. Pub. No. 2002/0009149.

3. Regarding claim 1, Rodriguez discloses, in a system including a client that has a connection with a source, wherein the connection has a bandwidth and wherein the client has a memory, a method for displaying a video stream without suppressing the video stream, the method comprising:

decoding and processing the video stream received by the client from the source, wherein memory and resources of the client are required to decode and process the video stream [para. 44];

monitoring the memory and resources of the client as the video stream is decoded and processed to ensure that the client has sufficient memory and resources

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to decode and process the video stream **[memory and bus bandwidth are continually computed and updated, para. 74, para. 57];** and

decoding and processing only key frames of the video stream if the client does not have sufficient memory and resources to decode and process the video stream, wherein other frames of the video stream are discarded by the client and only the key frames are displayed **[para. 58]**.

4. Regarding claim 2, Rodriguez discloses a method wherein decoding and processing only key frames of the video stream further comprises decoding and processing intra frames **[para. 58; Claim 13]**.

5. Regarding claim 3, Rodriguez discloses a method wherein decoding and processing only key frames of the video stream further comprises one or more of:

processing each intra frame of the video stream;

processing some of the intra frames of the video stream; and

processing some or all of the intra frames and some or all of predictive frames in the video stream **[decoder processes some or all of the I and P frames, para. 58]**.

6. Regarding claim 4, Rodriguez discloses a method comprising one or more of:

displaying each intra frame of the video stream; and

displaying some of the intra frames of the video stream; and

displaying some or all of the intra frames and some or all of the predictive frames of the video stream **[media engine 80 drives the television display, para. 32; some or all of the I frames are displayed, para. 58]**.

7. Claims 9, 11-13, 22, and 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by **Brooks et al., US 2002/0009149**.

8. Regarding claims 9 and 22, Brooks discloses, in a system that receives a video stream from a source over a connection that has a connection bandwidth, a method for displaying the video stream when the video stream requires more bandwidth than connection bandwidth, the method comprising:

connecting with the source to select and receive a video stream, wherein the video stream is available in one or more versions and wherein each version requires a different bandwidth **[different versions are available with varying required bandwidth, col. 10, 1-10; see cols. 6-7, lines 24-3 for version descriptions]**; and

negotiating with the source such that only key frames of the selected version of the video stream are downloaded from the source if the bandwidth of the selected version of the video stream exceeds the connection bandwidth and if the key frames do not exceed the connection bandwidth **[frame parameters can be dynamically adjusted in response to fluctuating bandwidth during transmission, claim 16, last two limitations; cols. 12-13, 44-11]**.

9. Regarding claims 11 and 24, Brooks discloses a method as defined in claim 9, further comprising assessing available memory of a set top box, wherein the available memory of the set top box affects which version of the video stream is selected by the set top box **[gateway assesses format requirements of receiving devices such as set top box, col. 10, 33-46; format requirements include stb memory, col. 6, 27-31]**.

10. Regarding claim 12 and 25, Brooks discloses a method wherein negotiating with the source such that only key frames of the selected version of the video stream are downloaded from the source further comprises renegotiating which frames are downloaded from the source if the connection bandwidth changes **[frame parameters can be dynamically adjusted in response to fluctuating bandwidth during transmission, claim 16, last two limitations]**.

11. Regarding claims 13 and 26, Brooks discloses a method as defined in claim 12, wherein negotiating with the source such that only key frames of the selected version of the video stream are downloaded from the source further comprises:

monitoring the connection bandwidth **[gateway monitors bandwidth requirements of client, col. 10, 63-3]; and**

negotiating with the source such that the frames downloaded to the set top box depend on how much connection bandwidth is available **[frame parameters can be**

dynamically adjusted in response to fluctuating bandwidth during transmission, claim 16, last two limitations; cols. 12-13, 44-11].

12. Regarding claims 22 and 24-26, Brooks discloses their substantive limitations as discussed above. In addition, Brooks teaches that the method of processing streaming video can be implemented in software running on a computer [col. 7, 41-45; col. 8, 7-13].

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rodriguez et al., US 2002/0009149** in view of **Brooks et al., US 7,143,432**.

15. Regarding claim 5, Rodriguez discloses all of the limitations of claim 1, as discussed above. The client computer in Rodriguez processes only certain frames depending on current available bandwidth and memory resources, but does not actively communicate with the server to modify download parameters. Brooks does teach a

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method in which the client negotiates with a source such that only the key frames are downloaded by the client from the source over the connection **[client transmits download parameters, including frame data, to gateway system (cols. 9-10, lines 63-6; col. 12; cols. 12-13, lines 57-11). Frame parameters can be dynamically adjusted in response to fluctuating bandwidth during transmission (Claim 16, last two limitations)]**. Rodriguez discusses bandwidth limitations in the context of streaming video **[paras. 57, 74]**. Thus, it would have been obvious to one of ordinary skill in the art to modify Rodriguez with the teaching of Brooks to monitor bandwidth in order to adjust download parameters, providing the user with the highest-quality video that fully utilizes but does not exceed available bandwidth.

16. Regarding claim 6, Rodriguez discloses a method further comprising the client receiving key frames of a video stream whose bandwidth is not supported by the connection, wherein a bandwidth of the key frames is supported by the connection **[when full-quality bandwidth is not available, video decoder decodes only key frames, paras. 74-76]**.

17. Regarding claim 7, Brooks discloses a method comprising:

monitoring the connection to determine a bandwidth of the connection **[gateway monitors bandwidth requirements of client, Brooks, col. 10, 63-3]; and**

renegotiating with the source to identify which frames of the video stream are downloaded by the client **[frame parameters can be dynamically adjusted in**

response to fluctuating bandwidth during transmission (Brooks Claim 16, last two limitations)].

18. Regarding claim 8, Rodriguez discloses a method wherein the frames downloaded by the client after renegotiating with the source comprise one or more of:

- all intra frames of the video stream; and
- some of the intra frames of the video stream **[media engine 80 drives the television display, para. 32; some or all of the I frames are displayed, para. 58].**

19. Claims 10, 14-21, 23 and 27-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks et al., US 7,143,432 in view of Rodriguez et al., US 2002/0009149.

20. Regarding claims 10 and 23, Brooks does not state which types of frames are to be omitted in order to adjust the required bandwidth of the video stream. Rodriguez teaches that at least some of the intra-frames are downloaded and processed as key frames in a bandwidth-constrained scenario **[decoder processes some or all of the I and P frames, para. 58].** Rodriguez discusses the fact that intra-frames are essential, being necessary to construct subsequent P or B frames **[col. 7, et seq.]** It would have been obvious to one skilled in the art to combine the teachings of Brooks and Rodriguez

because I frames are the minimal requirement to provide the user with a viewable signal while conserving as much bandwidth as possible.

21. Regarding claim 23, Brooks discloses its substantive limitations as discussed above. In addition, Brooks teaches that the method of processing streaming video can be implemented in software running on a computer **[col. 7, 41-45; col. 8, 7-13]**.

22. Regarding claims 14 and 27, Rodriguez discloses, in a set top box that has a memory and a connection with a video stream source, a method for displaying a video stream when the memory of the set top box and a bandwidth of the connection do not support displaying the video stream, the method comprising:

connecting with the video stream source in order to access and display a video stream **[DHCT is connected with headend, para. 30]**;

downloading the selected video stream **[DHCT 16 receives video signals from a headend and connects to a display, para. 32]**;

monitoring the memory of the set top box as the selected video stream is decoded, wherein only key frames of the video stream are decoded if the memory is insufficient to decode the entire selected video stream **[memory and bus bandwidth are continually computed and updated, para. 74, para. 57]**; and

Rodriguez does not explicitly describe negotiation of frame parameters based on bandwidth. Brooks teaches monitoring the bandwidth of the connection between the set top box and the source, wherein the set top box negotiates with the source to only

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download key frames of the video stream if the bandwidth of the connection does not support the selected video stream **[frame parameters can be dynamically adjusted in response to monitored bandwidth during transmission, claim 16, last two limitations; cols. 12-13, 44-11]**. Rodriguez does discuss bandwidth limitations in the context of streaming video **[paras. 57, 74]**. Thus, it would have been obvious to one of ordinary skill in the art to modify Rodriguez with the teaching of Brooks to monitor bandwidth in order to adjust download parameters, providing the user with the highest-quality video that fully utilizes but does not exceed available bandwidth.

23. Regarding claims 15 and 28, Rodriguez discloses a method wherein connecting with the video stream source further comprises assessing the bandwidth of the connection and the memory of the set top box before selecting a video stream from the source **[paras. 57, 58, 74]**.

24. Regarding claims 16 and 29, Brooks discloses a method wherein the selected video stream requires a bandwidth that is greater than the bandwidth of the connection between the set top box and the source **[cols. 18-19, 63-16]**.

25. Regarding claims 17 and 30, Rodriguez discloses a method wherein the memory of the set top box as the selected video stream is decoded further comprises eliminating buffers required for decoding the video stream **[Fig. 5, paras. 51-53]**.

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26. Regarding claims 18 and 31, Brooks discloses a method further comprising writing the decoded key frames to a screen without scaling the decoded key frames **[col. 12, 5-11]**.

27. Regarding claims 19 and 32, Rodriguez discloses a method wherein the key frames are intra frames **[decoder processes some or all of the I frames, para. 58]**.

28. Regarding claims 20 and 33, Brooks discloses a method wherein downloading the video stream further comprises negotiating with the server to download key frames of the video stream **[frame parameters can be dynamically adjusted in response to monitored bandwidth during transmission, claim 16, last two limitations; cols. 12-13, 44-11]**.

29. Regarding claims 21 and 34, Rodriguez discloses a method wherein monitoring the memory of the set top box as the selected video stream is decoded further comprises discarding frames of the video stream that are not key frames **[para. 75]**.

30. Regarding claims 27-34, Brooks discloses their substantive limitations as discussed above. In addition, Brooks teaches that the method of processing streaming video can be implemented in software running on a computer **[col. 7, 41-45; col. 8, 7-13]**.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Aharoni, US 6,014,694.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy R. Newlin whose telephone number is (571) 270-3015. The examiner can normally be reached on M-F 9-6 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TRN


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